

What is claimed is:

1. A liquid-crystalline medium comprising
  - a) one or more liquid-crystalline compounds and
  - 5 b) polymers composed of one or more polymerizable compounds of the general formula (I)



10 where:

R is H, F, Cl, CN, SCN, SF<sub>3</sub>H, NO<sub>2</sub>, straight-chain or branched alkyl having from 1 to 12 carbon atoms, of which one or two nonadjacent CH<sub>2</sub> groups may be replaced by -O-,  
15 -S-, -CH=CH-, -CO-, -OCO-, -COO-, -O-COO-, -S-CO-, -CO-S-, -CH=CH- or -C≡C- in such a way that oxygen and/or sulfur atoms are not directly bonded together, or -X<sup>2</sup>-Sp<sup>2</sup>-P<sup>2</sup>,

20 P and P<sup>2</sup> are each independently a polymerizable group, preferably -O(CO)-(CH<sub>2</sub>)<sub>o</sub>-CH=CH<sub>2</sub>, -O(CO)-CH=CH-(CH<sub>2</sub>)<sub>p</sub>-H, -CH=CH-(CH<sub>2</sub>)<sub>q</sub>-H, or -O(CO)-C(CH<sub>3</sub>)=CH-(CH<sub>2</sub>)<sub>r</sub>-H where o, p, q, r = 0-8,

25 Sp<sup>1</sup> and Sp<sup>2</sup> are each independently a spacer group, preferably -(CH<sub>2</sub>)<sub>m</sub>- where m = 1-8, or a single bond,

30 X<sup>1</sup> and X<sup>2</sup> are each independently -O-, -S-, -OCH<sub>2</sub>-, -CH<sub>2</sub>O-, -CO-, -COO-, -OCO-, -OCO-O, -CO-NR<sup>0</sup>-, -NR<sup>0</sup>-CO-, -OCH<sub>2</sub>-, -CH<sub>2</sub>O-, -SCH<sub>2</sub>-, -CH<sub>2</sub>S-, -CH=CH-COO-, -OOC-CH=CH- or a single bond,

35 A<sup>1</sup> and A<sup>2</sup> are each independently 1,4-phenylene in which one or more CH groups may be replaced by N, 1,4-cyclohexylene in which one or more nonadjacent CH<sub>2</sub> groups may be replaced by O and/or S, 1,4-cyclohexenylene, 1,4-bicyclo(2,2,2)octylene, piperidine-1,4-diyl, naphthalene-2,6-diyl, decahydronaphthalene-2,6-diyl, 1,2,3,4-tetrahydro-

naphthalene-2,6-diyl or indane-2,5-diyl, and all these groups may be unsubstituted or mono- or polysubstituted by L,

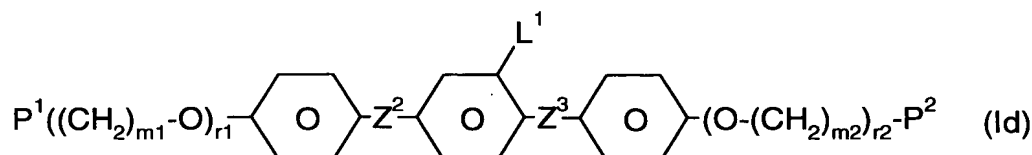
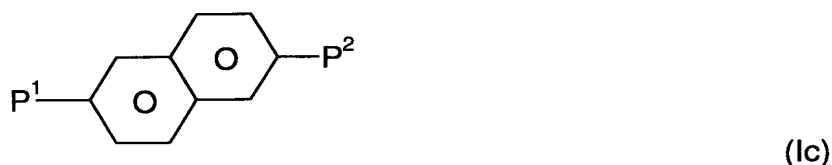
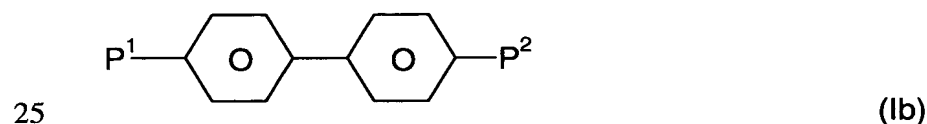
5 L is F, Cl, CN or alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkylcarbonyloxy having from 1 to 7 carbon atoms, in which one or more hydrogen atoms may be replaced by F or Cl,

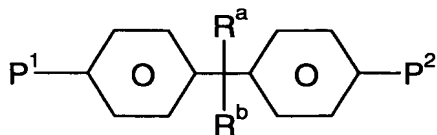
10 Z<sup>1</sup> is -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, -OCH<sub>2</sub>-, -CH<sub>2</sub>O-, -SCH<sub>2</sub>-, -CH<sub>2</sub>S-, -CF<sub>2</sub>O-, -OCF<sub>2</sub>-, -CF<sub>2</sub>S-, -SCF<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>-, -CF<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>-CF<sub>2</sub>-, -CF<sub>2</sub>-CF<sub>2</sub>-, -CH=CH-, -CF=CF-, -C≡C-, -CH=CH-COO-, -OCO-CH=CH-, CR<sup>0</sup>R<sup>00</sup> or a single bond, and

15 R<sup>0</sup> and R<sup>00</sup> are each independently H or alkyl having from 1 to 4 carbon atoms,

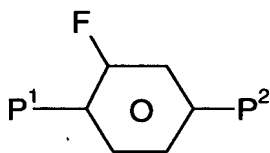
n is 0, 1 or 2.

20 2. A liquid-crystalline medium as claimed in claim 1, characterized in that the polymerizable compounds are selected from the following formulae

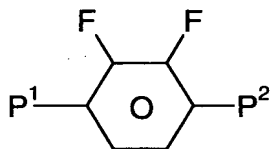




(le)

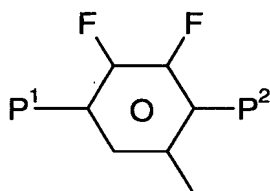


(lf)

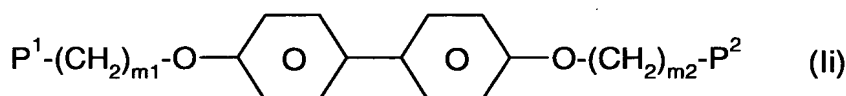


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(lg)



(lh)



(li)

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where  $P^1$  and  $P^2$  are each as defined above,  $Z^2$  and  $Z^3$  are each independently as defined for  $Z^1$ ,  $m_1$  and  $m_2$  are each independently from 1 to 8,  $r_1$  and  $r_2$  are each independently 0 or 1, and  $R^a$  and  $R^b$  are each independently H or  $CH_3$ , and  $L^1$  is H or  $-CH_3$ .

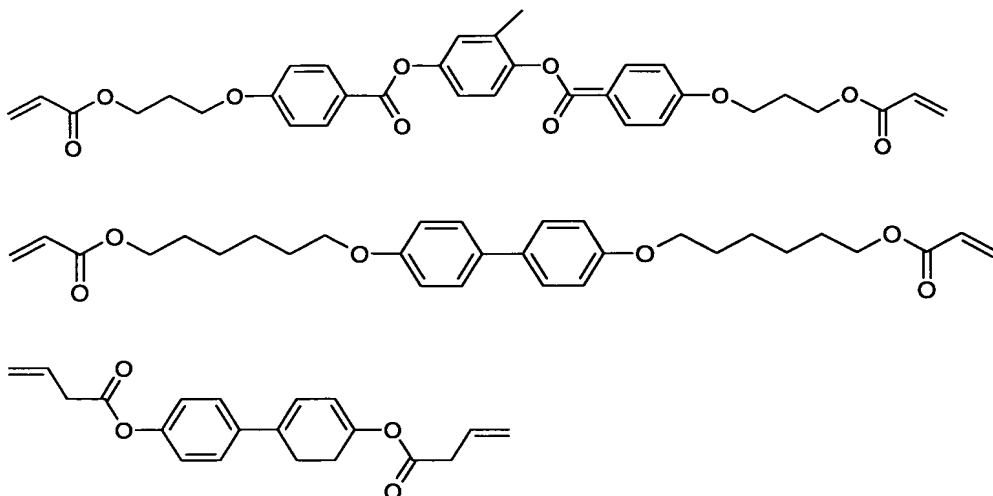
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3. A liquid-crystalline medium as claimed in claim 1 or 2, characterized in that  $P^1$  and  $P^2$  are each independently a polymerizable group selected from  $-O(CO)-(CH_2)_o-CH=CH_2$ ,  $-O(CO)-CH=CH-(CH_2)_p-H$ ,  $-CH=CH-(CH_2)_q-H$  and  $-O(CO)-C(CH_3)=CH-(CH_2)_r-H$

20

where  $o$ ,  $p$ ,  $q$ ,  $r = 0-8$ .

4. A liquid-crystalline medium as claimed in one of claims 1-3, characterized in that the polymerizable compound is selected from the following compounds:



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5. A liquid-crystalline medium as claimed in one of claims 1-4 comprising 0.01-10% by weight of polymer b).

10 6. A mixture for producing liquid-crystalline media as claimed in one of claims 1-5 comprising

- a) one or more liquid-crystalline compounds,
- b) one or more compounds of the general formula I,
- c) optionally one or more polymerization initiators.

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7. A liquid crystal switching element comprising a liquid crystal layer of liquid-crystalline medium as claimed in one of claims 1-5.

20 8. An electrooptical liquid crystal display system comprising a multitude of liquid crystal switching elements as claimed in claim 7 which are arranged in matrix form.